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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,635	07/11/2001	Hugo Remi Michiels	MICH3001/JEK	7901

23364 7590 07/21/2004

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FOURTH FLOOR  
ALEXANDRIA, VA 22314

EXAMINER

NI, SUHAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 07/21/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/901,635

**Applicant(s)**

MICHIELS, HUGO REMI

**Examiner**

Suhan Ni

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7 and 9-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7 and 9-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. The submission for RCE filed on 5/14/2004 has been entered.
2. This communication is responsive to the amendment filed 03/29/2004.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation of "a hard glue" in lines 4-5 is vague since it is not clear what the limitation is.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-4, 6-7 and 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al. (US-6,266,426).

Regarding claim 1, Azima et al. disclose a transducer, comprising: a one-piece piezoelectric disk (9) inherently having a first and second radial surface (Fig. 4); and a membrane (2) formed of an elastic material and attenuating sound vibrations, wherein the first radial surface of the piezoelectric disk is directly attached to the membrane (Fig. 4) as claimed. But Azima et al. do not clearly teach how to attach the first surface to the membrane as claimed. Since providing a suitable adhesive agent to bond a piezoelectric disk to a vibrating membrane of a loudspeaker is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide one or more kind suitable and commercially available adhesive agent, such as volatile acrylic glue for rapidly and firmly bond the piezoelectric driver to the vibrating membrane of the loudspeaker, in order to efficiently and effectively assemble the loudspeaker.

Regarding claims 2-4, 6-7 and 9 Azima et al. further disclose the transducer, wherein the membrane is formed a soft material (col. 3, lines 10-44) as claimed.

Regarding claims 10-11 and 13, Azima et al. further disclose the transducer, wherein the membrane is provided with a groove (3).

Regarding claim 12, Azima et al. do not clearly teach a depth of the suspension groove as claimed. Since Azima et al. do not specially restrict the configuration of the suspension groove, and do clearly suggest to provide the panel speaker in many applications, it therefore would have been obvious to one skilled in the art at the time the invention was made to provide a suitable

membrane with a desirable suspension groove, such as a depth of 90% of the membrane for the panel speaker, in order to provide a desirable panel speaker for certain application.

Regarding claim 14, Azima et al. further disclose the transducer, wherein the membrane has a circumferential edge (Fig. 3) connected to a frame (100) as claimed.

Regarding claims 15-16, Azima et al. further disclose the transducer, wherein the membrane has been configured as a part of a housing (Fig. 4) as claimed.

Regarding claims 17-18, Azima et al. further disclose the transducer, wherein the membrane is engaged to a suspension frame (1, 3) as claimed.

Regarding claims 20-21, Azima et al. do not clearly teach a frequency filter as claimed. Since providing a suitable frequency filter for an acoustic transducer is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable frequency filter for an acoustic transducer as an alternate choice, in order to provide a desirable loudspeaker having certain acoustic characteristics.

#### ***Response to Amendment***

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is (703)-308-9322, and the number for fax machine is (703)-305-9508. The examiner can normally be reached on Monday


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through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

SN

July 10, 2004

  
**SUHAN NI**  
**PRIMARY EXAMINER**